

Colorado Department of Health  
Hazardous Materials and Waste Management Division

Technical Memorandum No 1 Contaminant Identification and Exposure Assessment  
Operable Unit 15 - Inside Building Closures

Comments

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**GENERAL COMMENTS:**

Scope of Technical Memorandum #1 - The Division does not believe that the current scope and focus of Technical Memorandum #1 (TM 1) is consistent with the approved OU 15 RFI/RI Work Plan. The purpose of TM 1 should be limited to presenting the results of the Stage I and Stage II Field Sampling effort and DOE's evaluation of the need for Stage III and/or Verification sampling. Therefore, the Division recommends that DOE remove the Baseline Risk Assessment from the scope of TM 1.

Additionally, the Division would like to clarify that the scope of the decision regarding TM 1 is limited to the need to conduct additional stages of investigation to meet the objectives of the OU 15 Phase 1 RFI/RI Report. This is not a remedial action decision document, and approval of this document does not constitute the Division's certification of clean closure or approval of a No Further Action decision regarding potential remedial action at OU-15. Such a decision can only be made after appropriate public comment.

Determination of Clean Closure Performance Status - The Division does not consider risk based screening levels appropriate as clean closure performance standards for the IHSSs in OU 15. As stated in the Work Plan, the Clean Closure Performance Standard is generally applied through decontamination and/or removal of any detectable hazardous waste constituents. The Division's requirements for clean closure at OU 15 are specified in the Rocky Flats Plant Hazardous Waste Permit and discussed below.

- **Treatment Units** - To meet clean closure standards at hazardous waste treatment units in OU 15, steam rinsate samples must not contain detectable levels of chemicals of regulatory concern for that unit. The chemicals of regulatory concern at treatment units are the hazardous wastes that were specifically treated by the units. Chemicals of regulatory concern at IHSS 204 (Uranium Chip Roaster) are volatile organic compounds (solvents and coolants from uranium machining). At IHSS 217 (Cyanide Hood) the only chemical of regulatory concern is cyanide.

Rinsate samples from IHSS 217 did not contain detectable levels of VOCs and rinsate samples from IHSS 217 do not contain cyanide. Therefore, both IHSSs have sufficient information to show attainment of the clean closure performance standards, and verification sampling is not necessary.

- **Drum Storage Units** - To meet clean closure standards at hazardous waste drum storage units in OU 15, steam rinsate samples must not contain detectable levels of hazardous constituents reasonably expected to be at the unit. Hazardous constituents are listed in 6 CCR 1007-3 Part 261 Appendix VIII. Drum storage units at OU 15 include IHSS 178, 179, 180 and 211.

Equipment blanks must be collected to determine the source of phthalates in the OU 15 rinsate samples before clean closure can be demonstrated. Chemical hits that can not be attributed to sampling equipment should be compared to the list of hazardous constituents (Part 261 Appn VIII). A determination should then be made by DOE as to whether any remaining hazardous constituents are reasonably expected to be at that IHSS. If DOE does not consider the remaining hazardous constituents reasonably expected to be at an IHSS, the argument should be presented to the Division for concurrence. Verification sampling must be conducted for those hazardous constituents reasonably expected to be present and detected at the IHSS. Verification sampling should be limited to only the hazardous constituents identified during stage I sampling.

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Data Usability and QA/QC Evaluation - TM 1 reports that QA/QC samples were collected along with steam rinsate samples during this investigation. However, the QA/QC data is not reported or analyzed. Before any conclusions can be reached or decisions made based on the OU 15 field data a QA/QC analysis must be conducted to prove the usability and defensibility of the field data. The analysis must include a review of detection limits.

The representativeness of the stream rinsate data to characterize the condition of the floors in the IHSSs is questionable without knowing the impact of sampling equipment on the analytical results. It is clearly possible that the majority of the organic analytes detected in the IHSS rinsate samples are artifacts of the sampling process. However, no data has been collected to confirm this hypothesis. A full review of the QA/QC sampling plan and its appropriateness should be conducted and any additional sampling and analysis necessary to confirm the representativeness of the rinsate sampling performed.

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**SPECIFIC COMMENTS**

Section 1 1, page 1-1 - The reference to the overall objectives of the OU 15 RFI/RI should be to the Introduction (Section 1 page 1-1 and 1-2) of the Work Plan or Section 4 1 instead of Section 4 0. The four purpose statements are listed explicitly in the work plan Introduction and similarly in Section 4 1 but not in Section 4. Section 4 0 lists the five general goals of an RFI/RI.

Section 1 1, page 1-2 second paragraph - The first sentence in this paragraph must be corrected to reflect DOE's role and responsibilities in the RFI/RI process. TM 1 is being prepared and submitted by DOE and it's subcontractors to the CDH and EPA. This sentence must be modified to reflect this fact. The Division concurs with the remainder of this paragraph and applauds DOE and it's subcontractors for its efforts to work with the Division on OU 15.

Section 1 2, page 1-3 last paragraph - This paraphrasing of the IAG Statement of Work is not entirely correct and should be clarified. Section I B 11 a Interim Status Closure Units Inside Buildings (OU 15), states that if there has not been a release and there is not a threat of a release, then CDH and EPA will require no further action at OU 15. Additionally, it states that if there has been or is a threat of release then further action may be required. It is important that all parties recognize that if there was not a release no further action is required, but if there was a release the decision of further action is at the discretion of CDH and EPA. The Division reads the current language in this paragraph of TM 1 to presume that additional investigation will be required, which may or may not be the case.

Section 1 4, page 1-4 top of page - The requirements for submittal of a BRA for OU 15 are specifically discussed in Section 8 0 Human Health Risk Assessment Plan and Section 9 0 Environmental Evaluation of the OU 15 Phase I RFI/RI Work Plan. Specifically Section 8 1 of the Work Plan (page 8-1) states,

"However, the IHSSs in OU 15 are RCRA Closure Units to which the Clean Closure Performance Standards will be applied (see Section 3 0) and are all located inside buildings. Because the Clean Closure Performance Standards are risk-based standards, barring evidence of potential release of contaminants outside the IHSS, no HHRA should be necessary. If sampling or historical information indicate the presence of residual hazardous substances that pose a threat of release, a BRAP will be submitted in a technical memorandum in accordance with Sections VII D 1a, VII D 1 b, and VII D 1 c of the IAG Statement of Work."

The Division recommends that DOE reevaluate the decision to designate this submittal as tech memos 1 and 2 of a OU-15 Baseline Risk Assessment. If, as DOE proposes in this tech memo, NFA is pursued at OU 15 a BRA should not be necessary. If further action is deemed necessary at OU 15 then a BRA will be necessary and the BRA tech memos listed on page 1-4 of this tech memo would be required to address the specific concerns of that specific further action.

The Division recommends that DOE restrict the purpose of TM 1 to the work plan requirements of submittal of field sampling results and evaluation of the need for stage 3 and verification sampling.

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Section 3 - Presentation of Results

Section 3 0 - As stated in Section 2 1 Sampling Plan of this tech memo, activities performed as part of the investigation include a review of new and/or additional information, visual inspection and documentation of current conditions, and sampling and analysis of surfaces within each IHSS area. However, the review of new and/or additional information is not included in section 3, Presentation of Results. It is the Division's understanding that there is additional historical information regarding many of these IHSS, as well as new data relevant to the OU-15 investigation. If this information is pertinent to the future direction of the OU-15 investigation, it must be reported and discussed along with the OU-15 field sampling results in this tech memo.

Section 3 0, page 3-1 second paragraph - The statement, "Only those constituents that were detected by the laboratory analysis of the hot rinsate sample results are reported in the sections below" must be clarified. It is the Division's understanding that only positively identified constituents that were present above detectable limits and not present in laboratory blanks are considered "hits" and included in this section. Therefore, tentatively identified compounds or TICs, as well as constituents identified at below the detection limits and B qualified organics are excluded from this section. The Division recommends that this statement be clarified in the tech memo. Additionally, it should be noted in the text that the complete set of sampling results are included on the computer disks submitted with TM 1.

Section 3 1 through 3 6, Presentation of IHSS Specific Results - In presenting the results of field sampling for each specific IHSS, many sections of the text (Section 3 1 through 3 6) are redundant and for the most part unnecessary. For example, the text in section 3 1 is repeated for every IHSS with only the IHSS number modified. This type of introductory statement is not necessary for every IHSS and should be included once in the introduction to the section.

Section 3 x 3 Data Presentation for IHSS xxx - These sections should not be limited to directing the reader to the appropriate sampling result tables. A brief discussion summarizing the results and highlighting any unusual or significant results should be added to this section.

Also, it is not necessary to repeat the entire citation for the series of results tables for every IHSS. A simple statement such as, "Results of the Stage I and II investigations for IHSS xxx are presented in tables 3 x 1 through 3 x 4" is sufficient to guide the reader to the appropriate tables.

Section 3 1 1, page 3-2 - A listing of the waste codes currently being stored at IHSS 178 as a 90 day accumulation area should be compiled and compared to the work plan list and rinsate sampling results to determine any possible impact of recent operations on sampling results.

Tables 3 x 1 Hot Water Rinsate Chemical Results (Hits Only) - A review of the rinsate sampling results submitted on computer disk and the respective tables indicate that these tables are incomplete. Several chemicals were found on the computer data set that should have been included in the tables. For example, hexadecanoic acid is reported at IHSS 178 but not in Table 3 3-1. The Division recommends that DOE review the criteria used to select results for reporting in all summary tables in TM 1 and make any corrections necessary.

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Section 4 0 Selection of Constituents of Concern

Section 4 0, page 4-1 - The introduction of this section should clearly delineate the scope of the COC selection process and its relationship to CHWA Closure requirements and CERCLA Baseline Risk Assessment requirements

As stated in the approved OU 15 RFI/RI Work Plan and noted in Division comments to Section 1 of this TM, if no further action is required at OU-15 a baseline risk assessment should not be necessary

Section 4 0, page 4-1 - The statement that RAGS calls for a screening process to reduce the number of constituents at a site based on concentrations and toxicities of constituents detected is misleading and unnecessary. A review of RAGS Part A Section 5 9, Further Reduction in the Number of Chemicals (Optional), indicated that screening of chemicals is optional and should only be done when carrying a large number of chemicals through the process is not practical. The use of such screens is not "typical" or "called for" in RAGS. The Division recommends deleting this reference to RAGS and optional screening processes in this tech memo.

Section 4 0, page 4-1 and 4-2 - In general the Division concurs with the process of evaluating the OU 15 rinsate data to determine if hazardous constituents have been detected. However, as stated in the General Comments to this TM, the Division does not consider risk based screening levels appropriate as clean closure performance standards for IHSS at OU 15. The Division offers the following comments and concerns on the selection criteria:

"U" Qualified Results - A discussion of maximum acceptable detection limits for elimination of compounds from further consideration based on non-detect should be included in this tech memo (see General Comment - Data Usability)

QC CODE of "REAL" - Samples with a QC CODE of "DUP" should also be considered in the evaluation of rinsate samples. The results of duplicate sample analysis are equally valid. Where multiple results are reported for a single sample, without dilution, the Division recommends that, as a conservative approach, the maximum of the two sample results be used in the evaluation. Multiple dilution results should be individually scrutinized to determine what results are most appropriate.